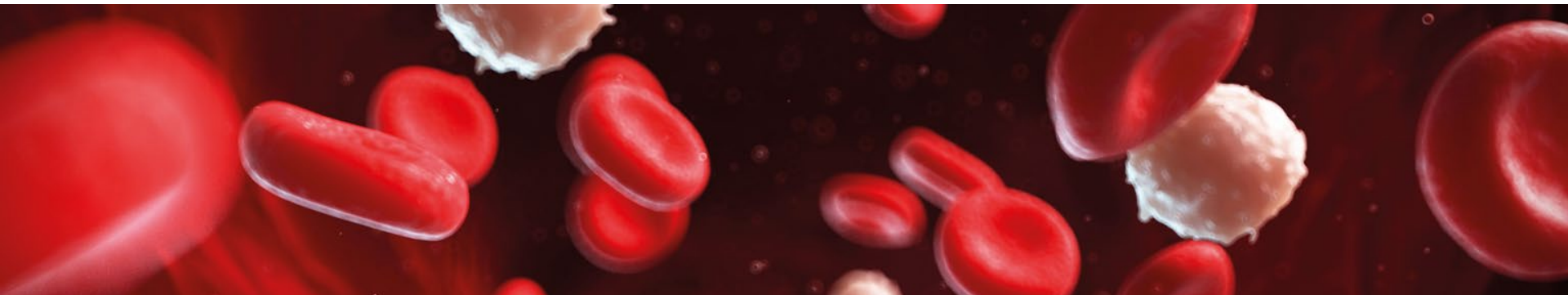


Webinar for SCD patients on COVID-19

Speakers:

- Mariane de Montalembert, AP-HP Hôpital Necker
- Noémi Roy, Oxford University Hospitals NHS Foundation Trust



**European
Reference
Network**

for rare or low prevalence
complex diseases



Network
Hematological
Diseases (ERN EuroBloodNet)

Mariane de Montalembert

Disclosures

Grants from Novartis and Addmedica

Boards for Novartis, Addmedica, BlueBirdBio, Vertex

French register (pediatric population in France \approx 15000 children with SCD)

(Arlet JB, Lancet Haematology 2020)

	All patients (n=83)	Patients aged 0-14 years (n=12)	Patients aged 15-44 years (n=56)	Patients aged 45-64 years (n=14)	Patients aged 65-74 years (n=1)
Age	30 (0-3-68)	--	--	--	--
Sex					
Male	38 (46)	6 (50)	22 (39)	9 (64)	1 (100)
Female	45 (54)	6 (50)	34 (61)	5 (36)	0
Haemoglobin genotype					
SS/S β^0	71 (86)	11 (92)	48 (86)	12 (86)	0
SC	8 (10)	0	5 (9)	2 (14)	1 (100)
S β^0	4 (5)	1 (8)	3 (5)	0	0
Hydroxyurea treatment at admission	38 (46)	4 (33)	28 (50)	6 (43)	0
Hydroxyurea dose (mg/kg/day)	17.9 (8.8-30.2)	18.8 (18.6-23.3)	18.2 (11.8-30.2)	13.7 (8.8-16.5)	--
Weight (kg)	68 (5-110)	32 (5-49)	71.8 (41-110)	71.5 (59-95)	85
Vaso-occlusive crisis	44/81* (54)	6 (50)	34 (61)	4/12* (33)	0
Acute chest syndrome	23/82* (28)	2 (17)	17 (30)	4/13* (31)	0
Transfusion†	31 (37)	4 (33)	18 (32)	8 (57)	1 (100)
Length of hospital stay (days)‡	8 (2-37)	4 (2-10)	7 (2-35)	10 (4-37)	22
Mechanical ventilation in the intensive care unit§	9/17 (53)	0	3/7 (43)	5/7 (71)	1 (100)

17 pts <18 yrs

French register-2

(Arlet JB, Lancet Haematology 2020)

	Inpatients with sickle cell disease (n=83)		Hospitalised French population (n=17745)*		p value†
	ICU admission	Deaths	ICU admission*	Deaths‡	
Age range (years)					
All patients	17 (20)	2 (2)	6075 (34)	2891/42 212 (7)	--
0-14	2/12 (17)	0	32/110 (29)	1/592 (<1)	0.72
15-44	7/56 (13)	0	514/2112 (24)	105/7524 (1)	0.039
45-64	7/14 (50)	2/14 (14)	3049/8422 (36)	1016/19 689 (5)	0.28
65-74	1/1 (100)	0	2480/7101 (35)	1769/14 405 (12)	--

Data are n (%) or n/N (%). *French general population younger than 75 years hospitalised with confirmed COVID-19 during the peak of the pandemic (April 7, 2020).⁴
 †Comparison of ICU admission prevalence by age range between inpatients with sickle cell disease and the French general population hospitalised with confirmed COVID-19 (Fisher's exact test). ‡Death prevalence by age range among all confirmed inpatients with COVID-19 younger than 75 years from March 1, 2020, to April 14, 2020, in France.⁴

Table 2: ICU admission in patients with sickle cell disease and COVID-19

Patients with COVID-19 in a Paediatric ICU-2

Heilbronner C, Br J Haematol 2020

	Patient 1	Patient 2	Patient 3	Patient 4
Age (yrs)	17.5	11.6	12.5	16.6
ACS and severe VOC				
Radiological findings	Unilateral or bilateral inferior lobe consolidation			
			CT-scann: mixed ground glass; mild pleural and pericardial effusion	
				Pulmonary embolism
CRP (mg/l)	100	246	145	355
IL6 (pg/ml)	NA	215	37.5	724
D-dimers (ng/ml)	2007	7115	7564	23600
Treatment	Cefotaxim + azithromycin Eythrapheresis Non Invasive Ventilation			
				tocilizumab

SECURE-SCD registry: 366 pediatric cases reported, 324 from the US

Median age: 10.9 (SD 5.4) years

Genotypes: HbSS/SB₀: 109 (71.7%)

Hospitalizations: 70 (46.1%)

Death: 1 (0,7%)

Mucalo L et al, Abstract 16, ASH 2020)

Hospitalization rate of US cases in SECURE-SCD registry compared with general Black population from COVID-NET data

Age	COVID-NET Hospitalized cases (n)	COVID-NET (%)	SECURE-SCD Hospitalized cases (n)	SECURE-SCD (%)
0-4	111	0.6	8	4.2
5-17	201	1	50	26.2
18-49	5755	29.5	114	59.7
50-64	6141	31.5	14	7.3
65+	7306	37.4	5	2.6

Mucalo L et al, Abstract 16, ASH 2020

Fatality rate of US cases in SECURE-SCD registry compared with general Black population from COVID-NET data

Age	California Dept Deaths (n / %)	SECURE-SCD Deaths (n/%)
0-17	0	1 (0.8%)
18-34	35 (0.4%)	3 (2.6%)
35-49	64 (1%)	7 (11.9%)
50-64	238 (3.8%)	3 (17.6%)
65-79	483 (15%)	1 (20%)
80+	489 (34.3%)	0

Mucalo L et al, Abstract 16, ASH 2020

Previous acute care for pain, SCD-related heart and lung comorbidities and neurobehavioral disorders are associated with COVID-19 hospitalizations in children with SCD

Previous acute care for pain is associated with more severe course of COVID-19 infection in children with SCD

Mucalo L et al, Abstract 16, ASH 2020

- **Do background treatments (siklos) protect against COVID?**

NO, it doesn't protect against getting infection (and doesn't increase the risk), but it may decrease the risk of having an acute chest syndrome when being infected

school for children with SCD during COVID-19 pandemic

- Very few cases of symptomatic infections,
- Children are
 - Less frequently infected
 - Less severely infected (severity inversely correlated with age)
 - Less contagious than adults
- Extremely rare cases of Pediatric Inflammatory Multisystemic syndroms (PIMS) not more frequent in patients with SCD
 - In France, dramatic increase of admissions for psychological distress in children after the quarantine and school exclusion
 - Consensus for all French paediatricians not to exclude children from school, for almost all cases, with few exception (just after BMT for instance),
 - While recommending maintaining healthy environment, hand washing, masks in older children, and social distancing

Retour à l'école et COVID-19 : il est urgent de maîtriser nos peurs et aller de l'avant pour le bien des enfants: Tribune - 31/05/20

Back to school and COVID-19: It is urgent to control our fears and move forward for the good of children

Doi : 10.1016/j.jpp.2020.05.001

C. Delacourt, C. Gras-Le Guen, E. Gonzales

Société française de pédiatrie, 149, rue de Sèvres, 75015 Paris, France

Le texte complet de cet article est disponible en PDF.

Hospitalization Rates and Characteristics of Children Aged <18 Years Hospitalized with Laboratory-Confirmed COVID-19 — COVID-NET, 14 States, March 1–July 25, 2020

Weekly / August 14, 2020 / 69(32);1081–1088

Cumulative COVID-19-associated hospitalization rate among children aged <18 years was 8.0 per 100,000 population, with the highest rate among children aged <2 years (24.8). Rate in adults 164.5 per 100,000 .

Among 222 (38.5%) of 576 children with information on underlying medical conditions, 94 (42.3%) had one or more underlying conditions. The most prevalent conditions included obesity (37.8%), chronic lung disease (18.0%), and prematurity (gestational age <37 weeks at birth, collected only for children aged <2 years) (15.4%).

576 children hospitalized with COVID-19 were reported to COVID-NET. Infants aged <3 months accounted for 18.8% of all children hospitalized with COVID-19. Sixty-nine children (33.2%) were admitted to the ICU for a median of 2 days (IQR = 1–5 days).

Any underlying condition (N = 222)	94/222 (42.3)	14/65 (21.5)	9/24 (37.5)	71/133 (53.4)
Obesity [§]	42/111 (37.8)	N/A	6/18 (33.3)	36/93 (38.7)
Chronic lung disease	40/222 (18.0)	2/65 (3.1)	4/24 (16.7)	34/133 (25.6)
Asthma	30/222 (13.5)	1/65 (1.5)	0/24 (0)	29/133 (21.8)
Prematurity (gestational age <37 weeks) [¶]	10/65 (15.4)	10/65 (15.4)	N/A	N/A
Neurologic disorder	31/222 (14.0)	6/65 (9.2)	7/24 (29.2)	18/133 (13.5)
Immunocompromised condition	12/222 (5.4)	0/65 (—)	2/24 (8.3)	10/133 (7.5)
Feeding tube dependent	12/222 (5.4)	4/65 (6.2)	3/24 (12.5)	5/133 (3.8)
Chronic metabolic disease	10/222 (4.5)	1/65 (1.5)	0/24 (—)	9/133 (6.8)
Diabetes mellitus	6/222 (2.7)	0/65 (—)	0/24 (—)	6/133 (4.5)
Blood disorders	8/222 (3.6)	0/65 (—)	0/24 (—)	8/133 (6.0)
Sickle cell disease	5/222 (2.3)	0/65 (—)	0/24 (—)	5/133 (3.8)
Cardiovascular disease	7/222 (3.2)	2/65 (3.1)	2/24 (8.3)	3/133 (2.3)

Noémi Roy

Disclosures
Unrestricted grant from Vifor

Covid-19 national data collection UK data as of 07 December 2020

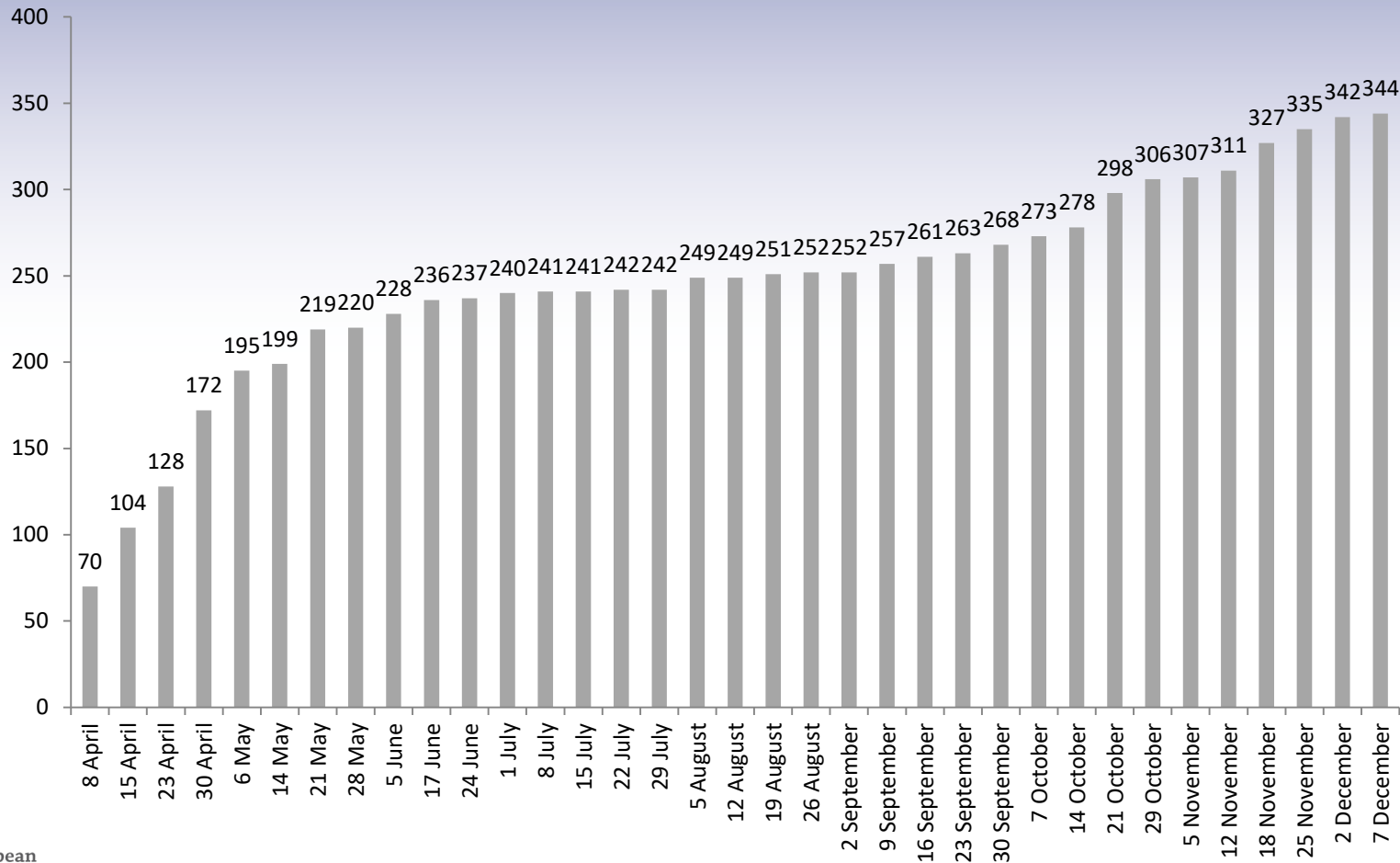


15,000 SCD, 800 thalassaemia, ?500 rare inherited anaemias

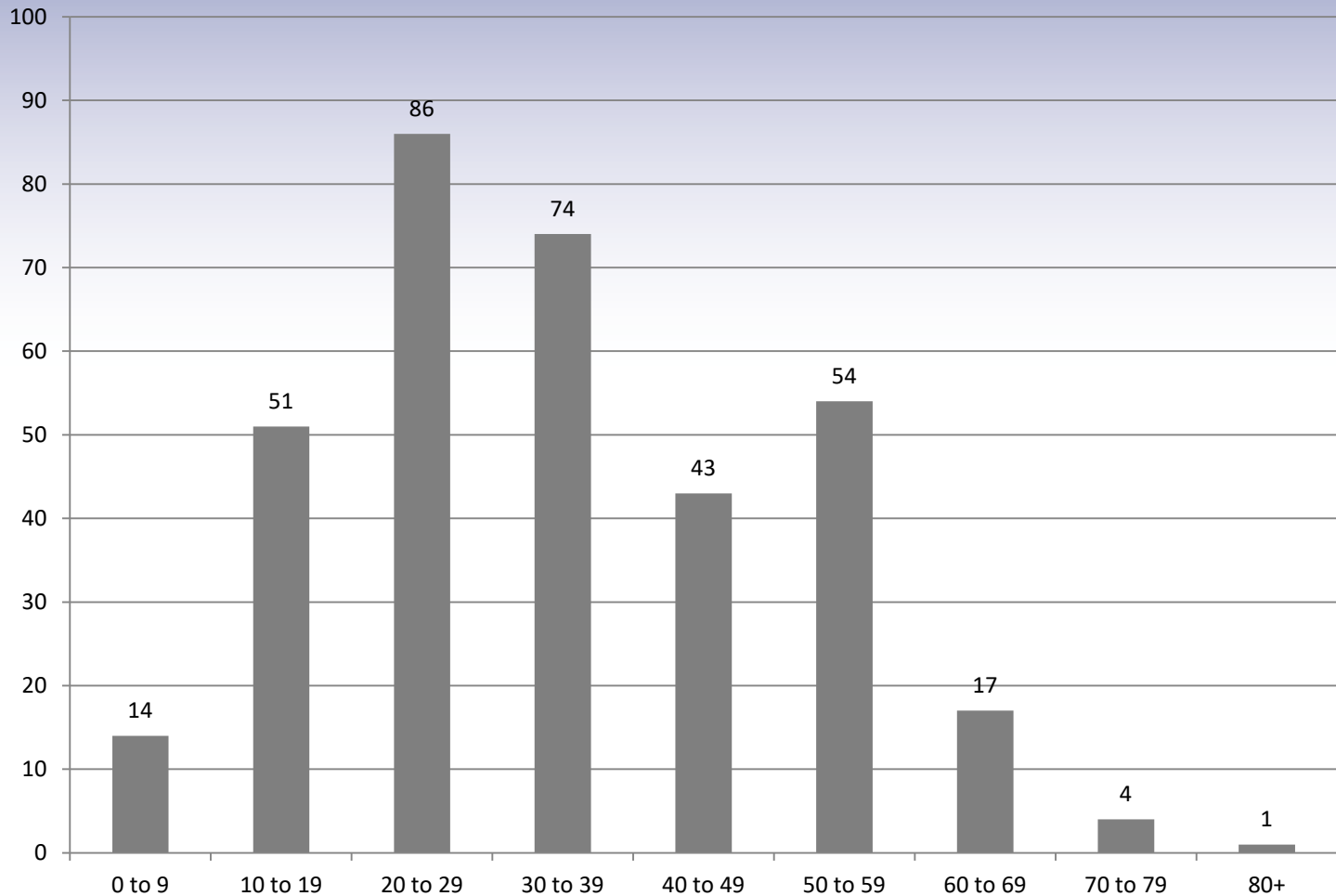
National Haemoglobinopathy Panel

Prepared by Ralph Brown, Mamta Sohal, Josu de la Fuente and
Mark Layton

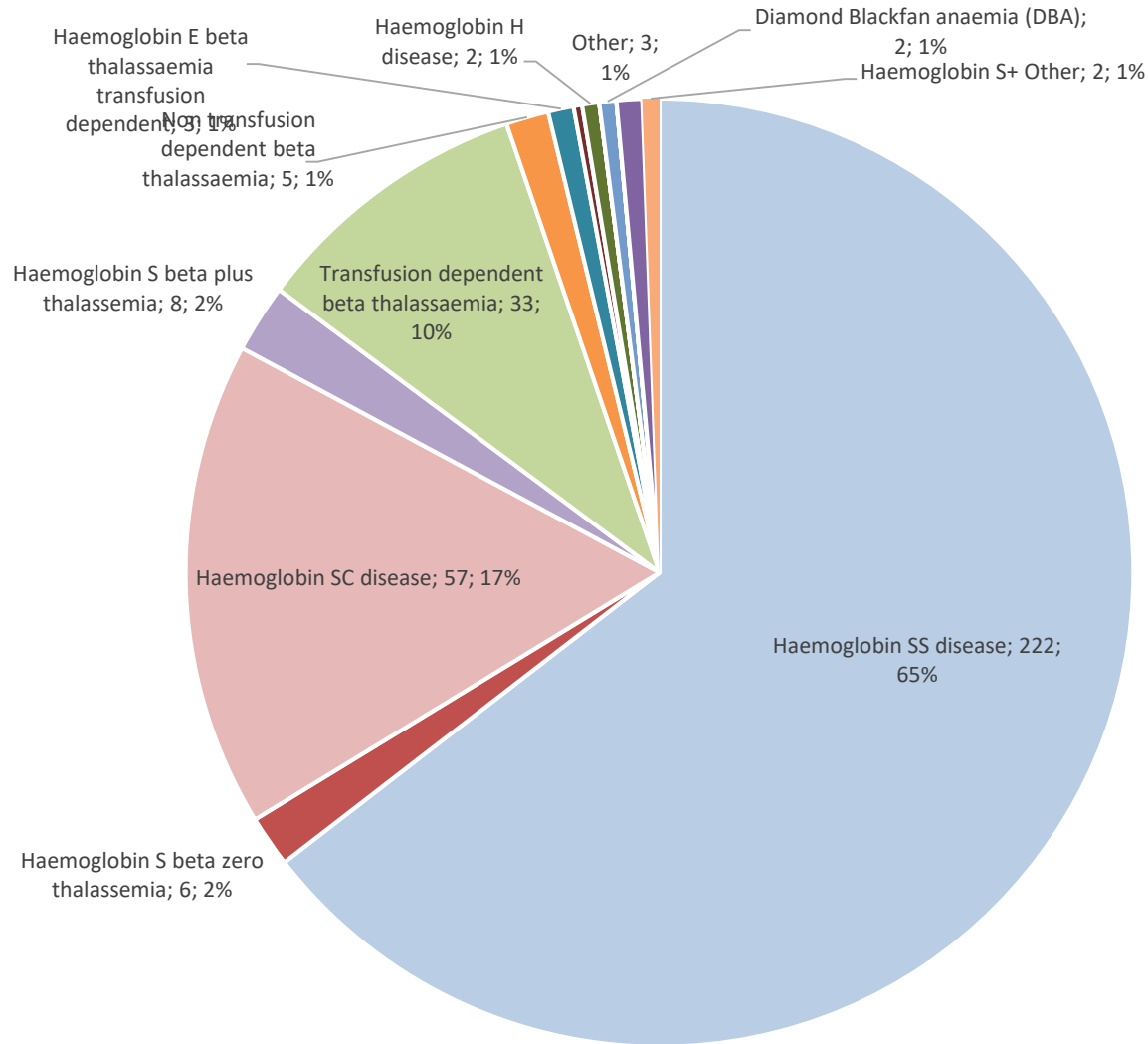
Patient numbers



Age of patients reported

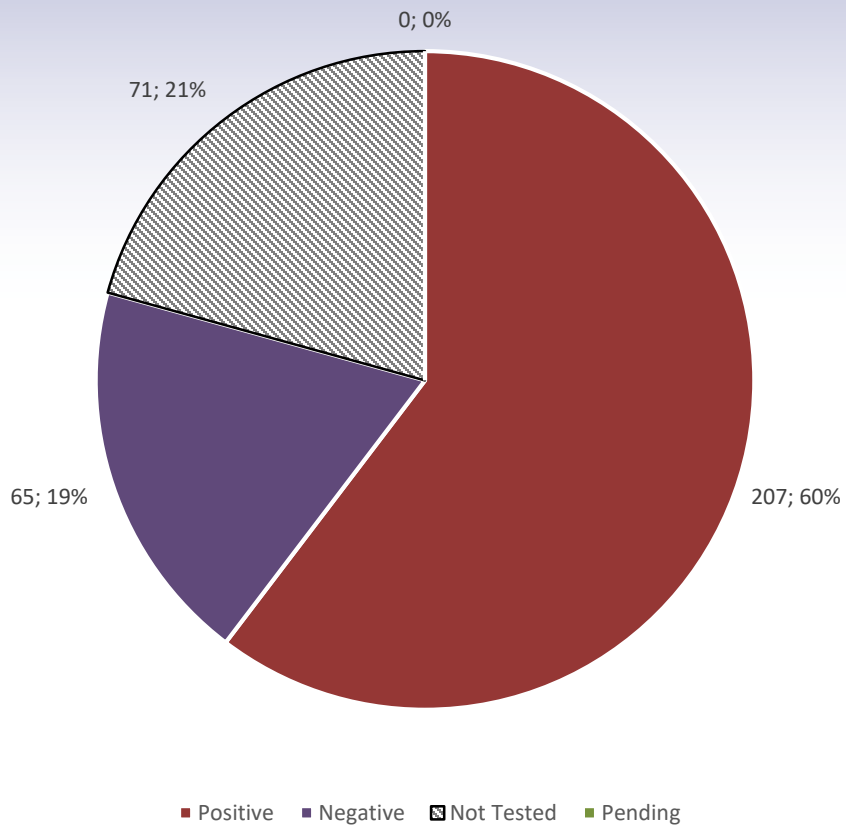


Phenotype of patients

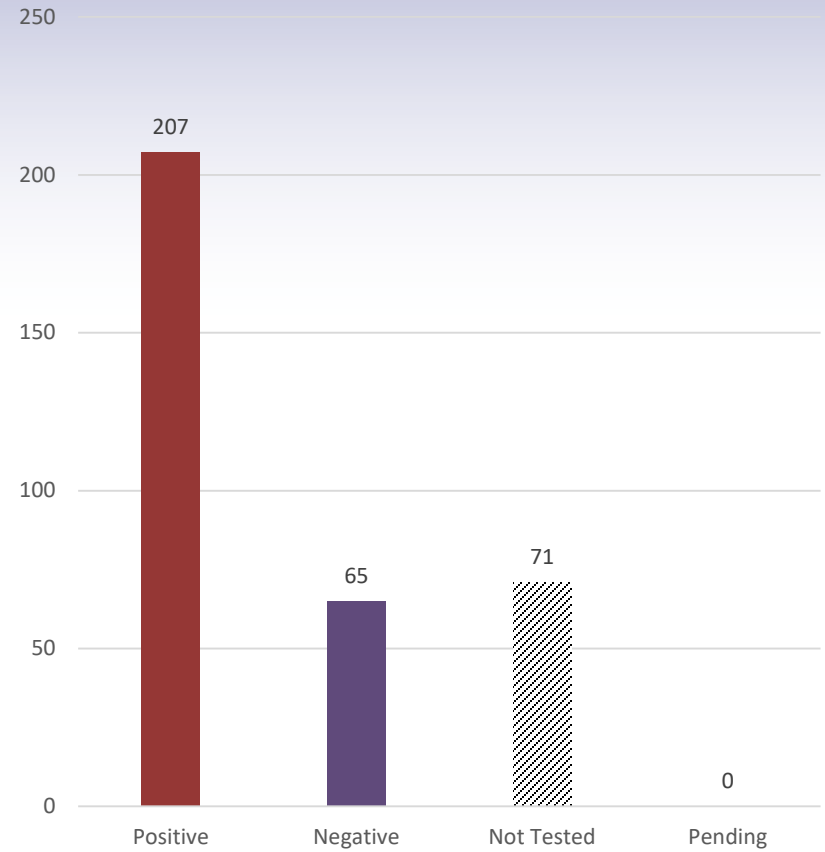




Result of COVID -19 Swab



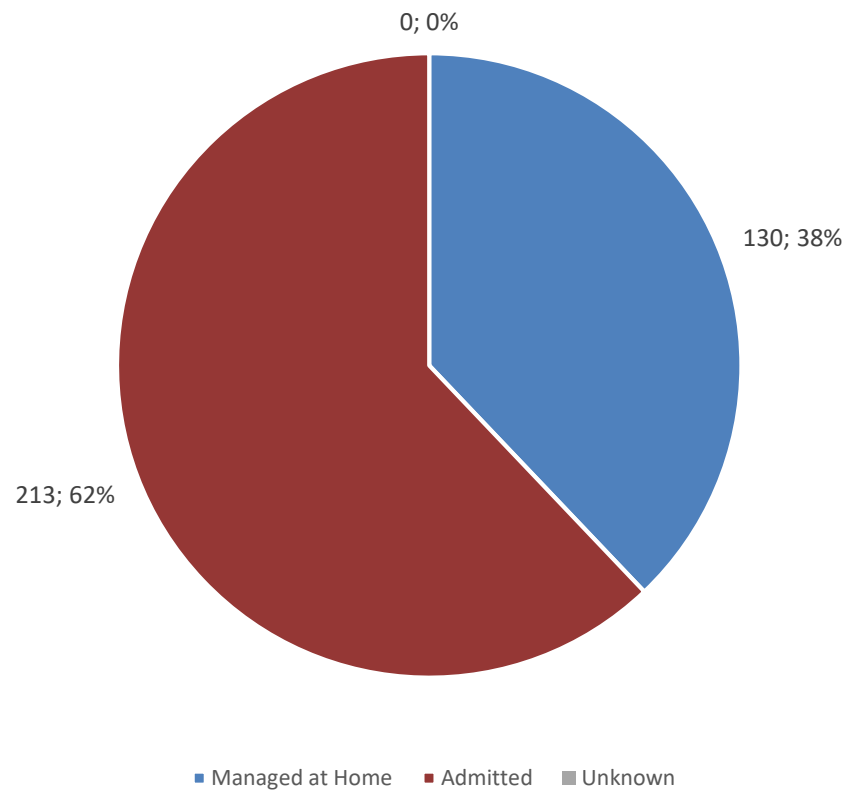
Result of COVID -19 Swab



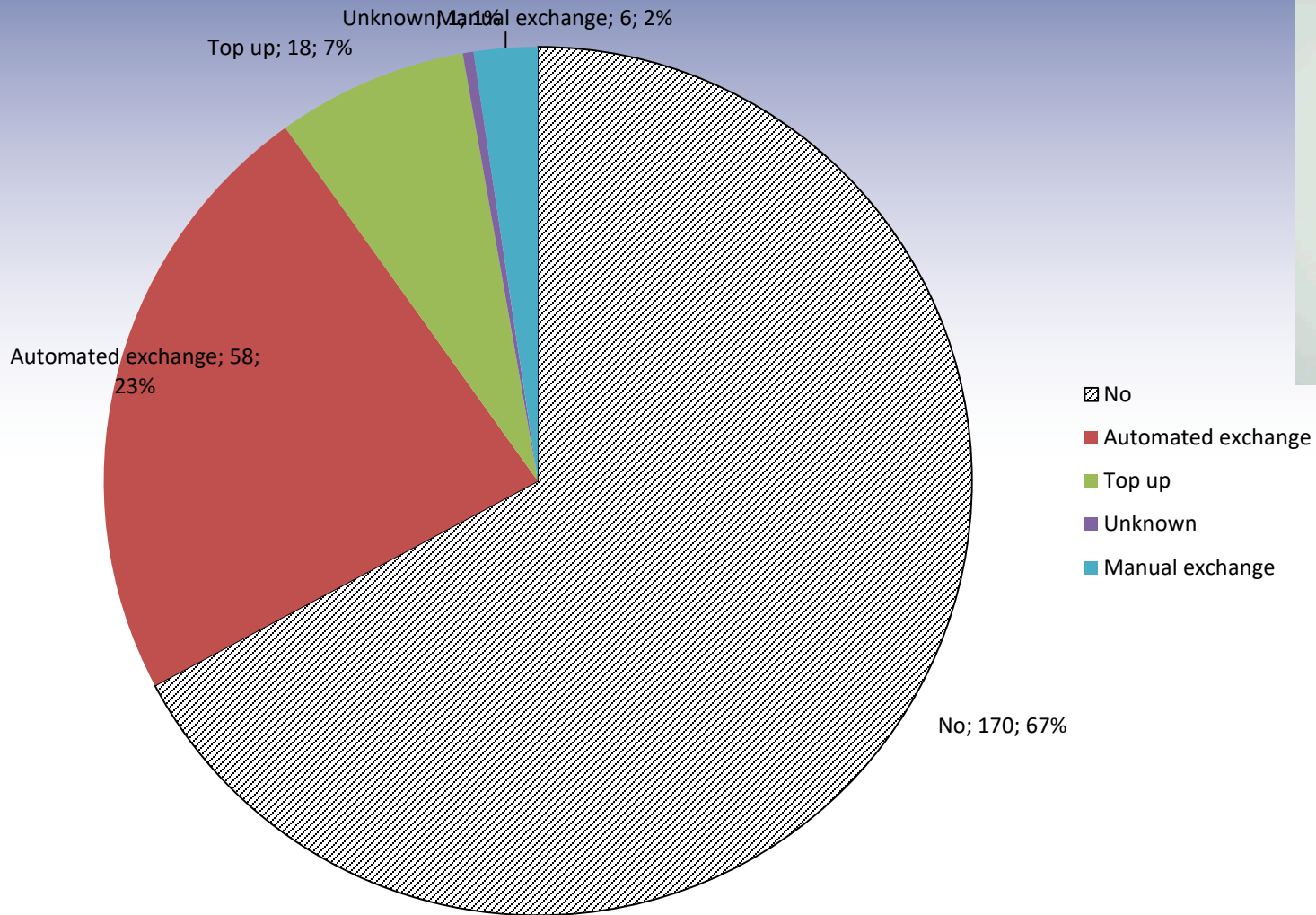
Total requiring admission



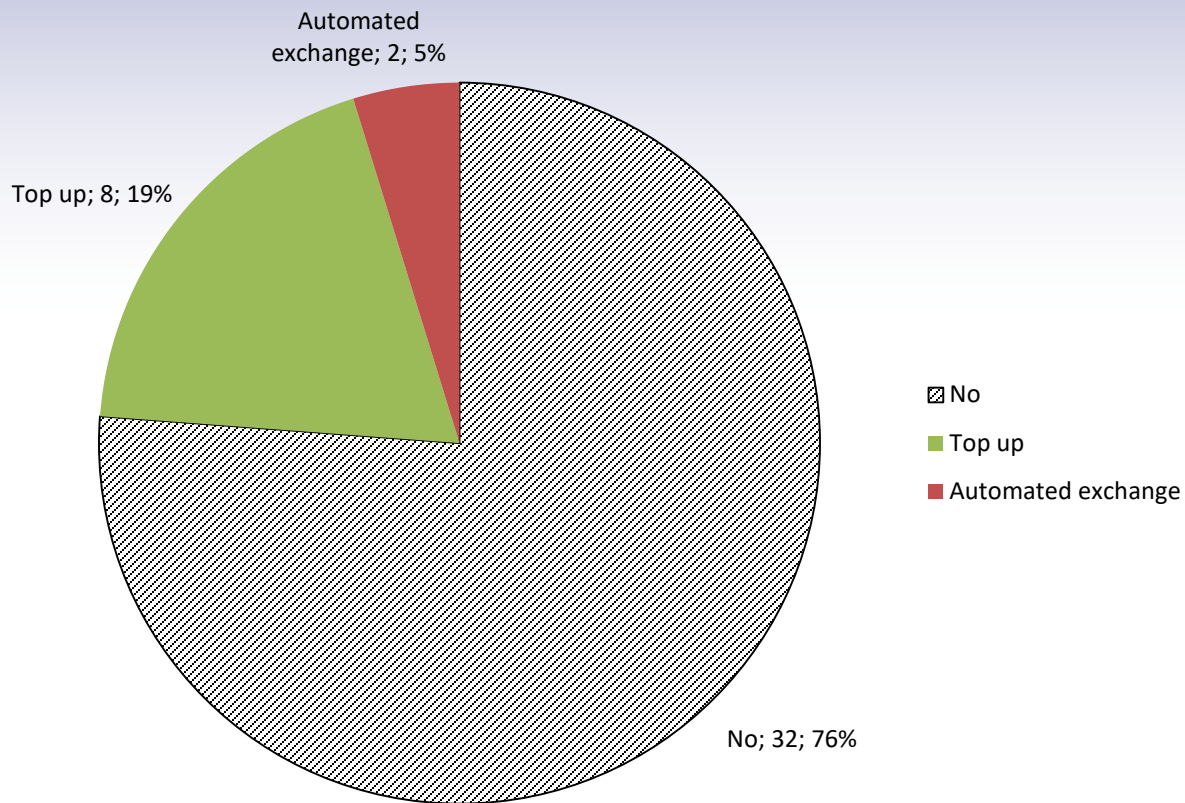
Total Admitted



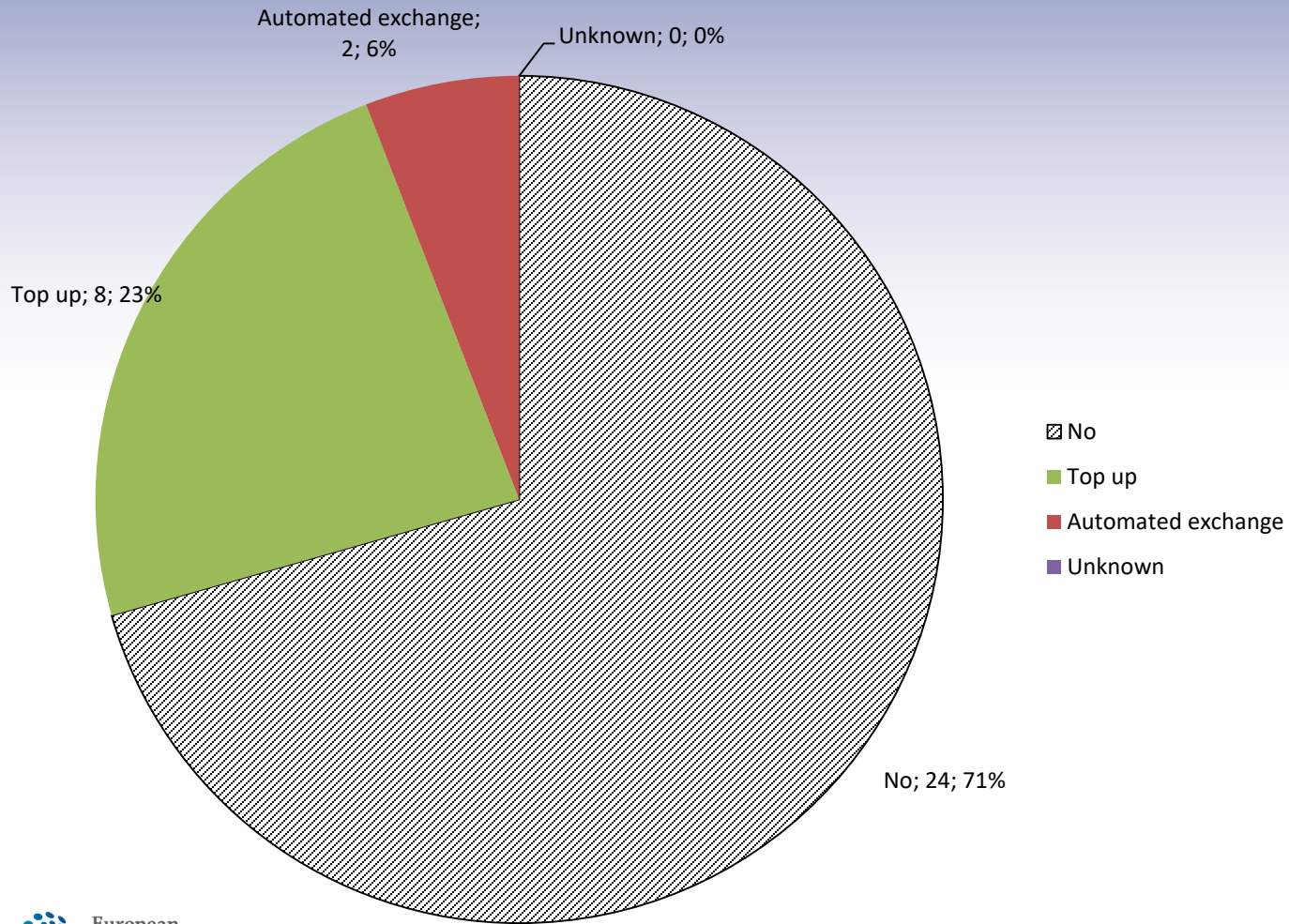
Transfusion – SCD adults



Transfusion – SCD children



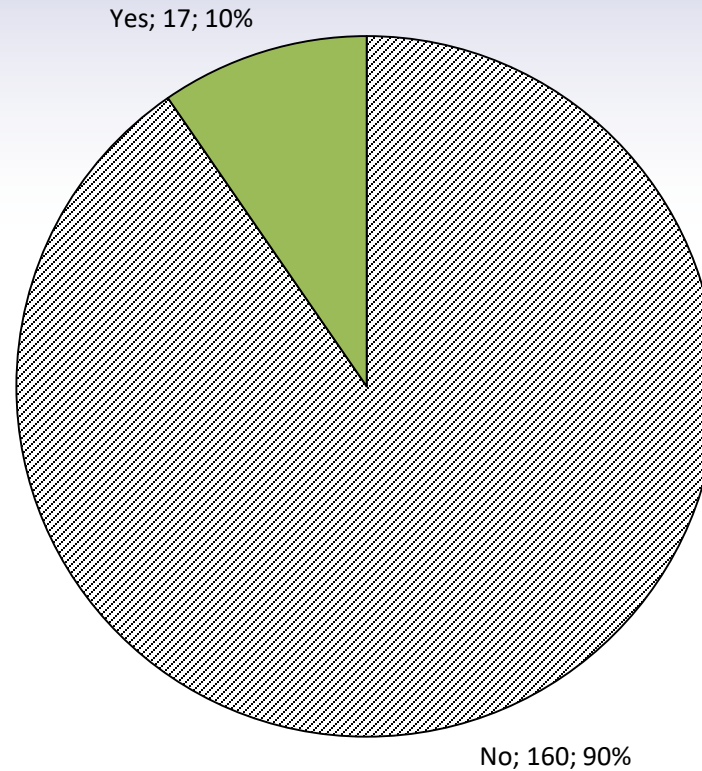
Adult Transfusion in Thalassaemia and Rare Anaemias



Non-invasive Ventilation

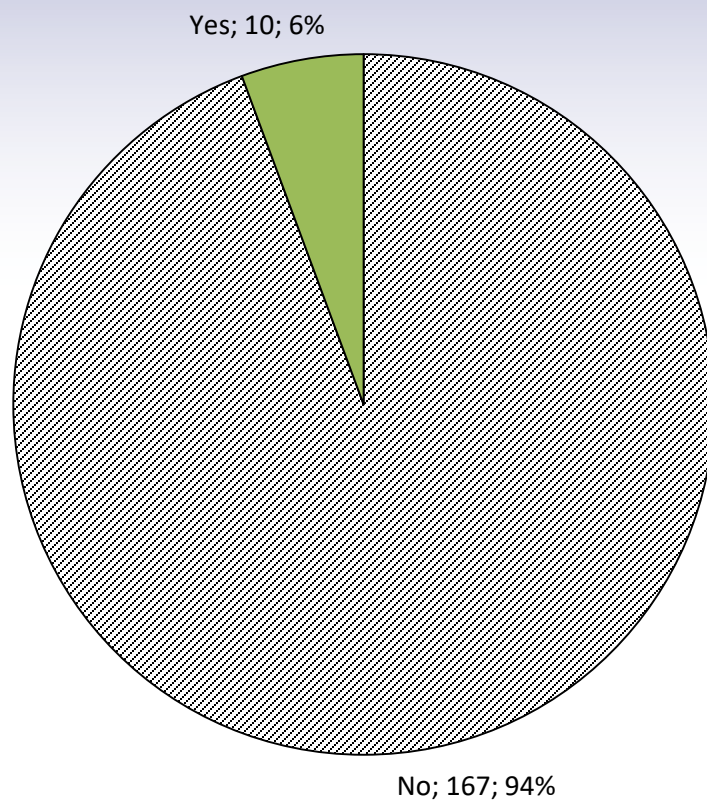


NIV support for admitted adult patients



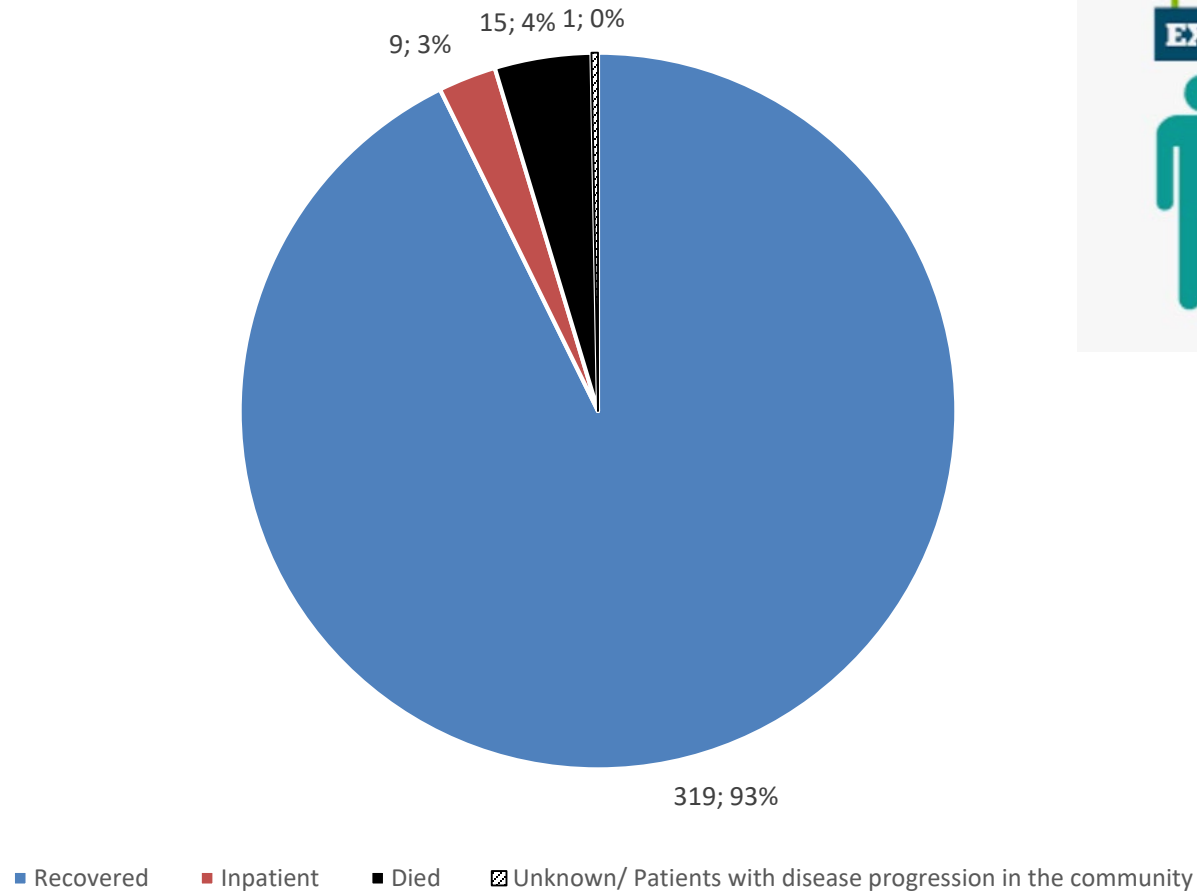
Intubation and mechanical ventilation

Intubation for admitted adult patients

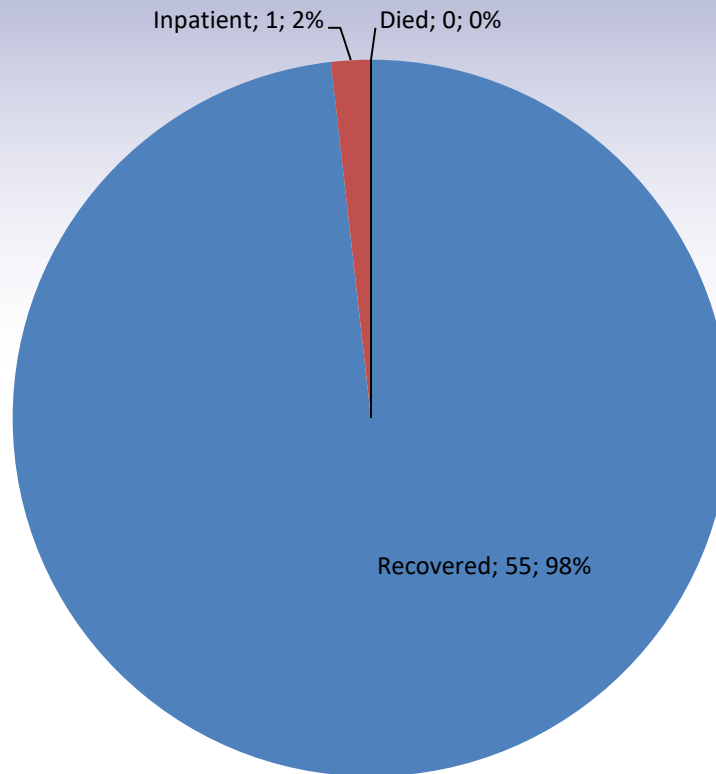


Outcome - All patients

Patient Outcomes

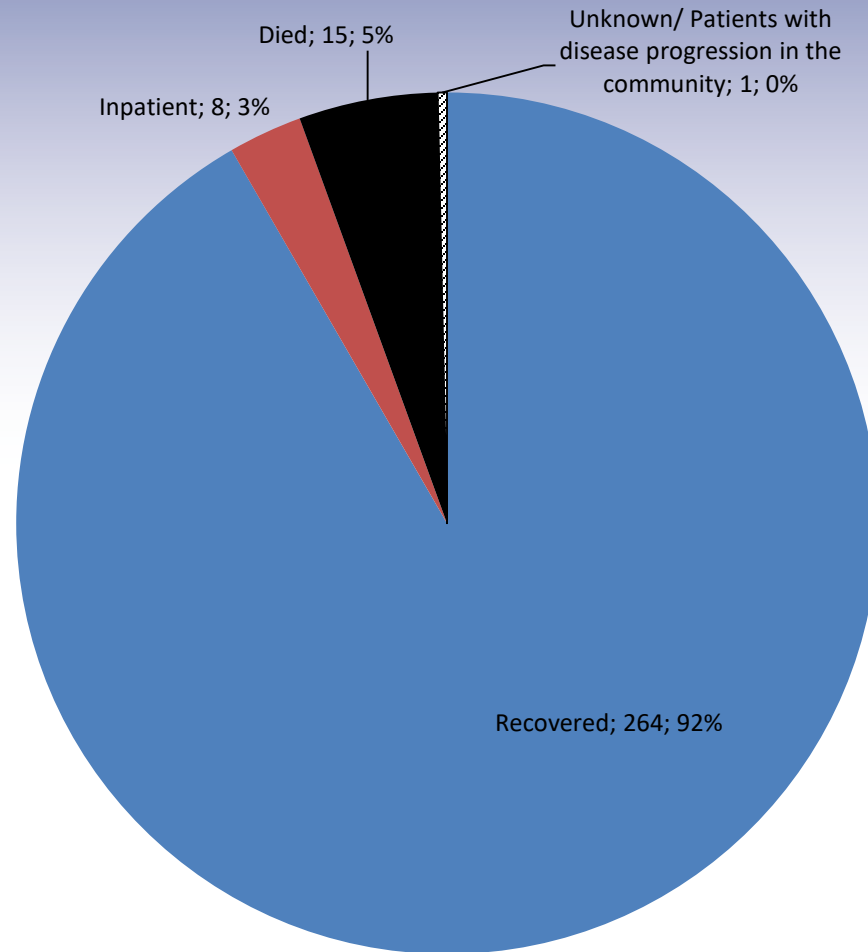


Paediatric outcome

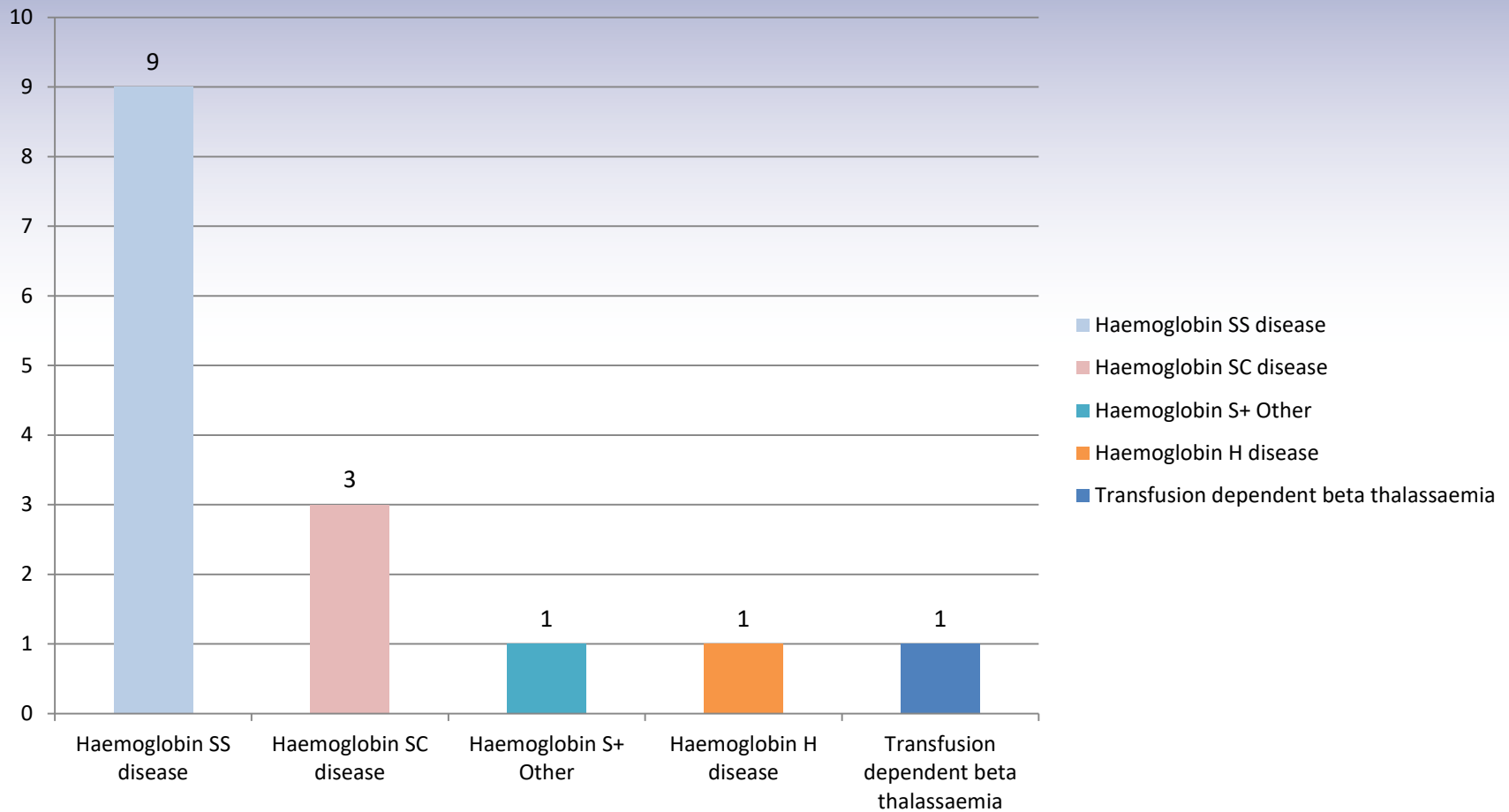


■ Recovered ■ Inpatient ▣ Unknown/ Patients with disease progression in the community ■ Died

Adult outcome



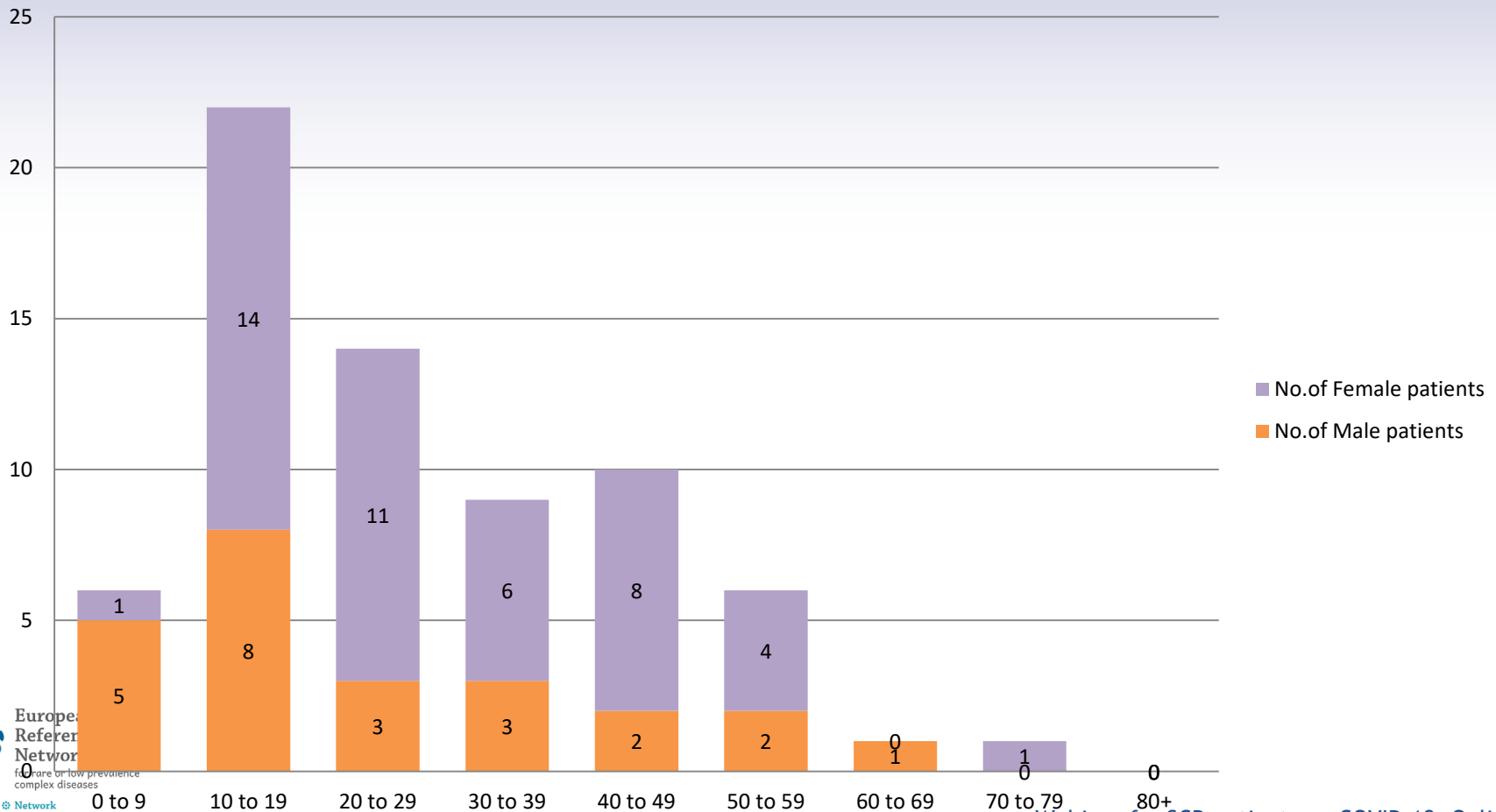
Mortality



2nd wave information new cases from 1st Sep 2020- 7th Dec 2020

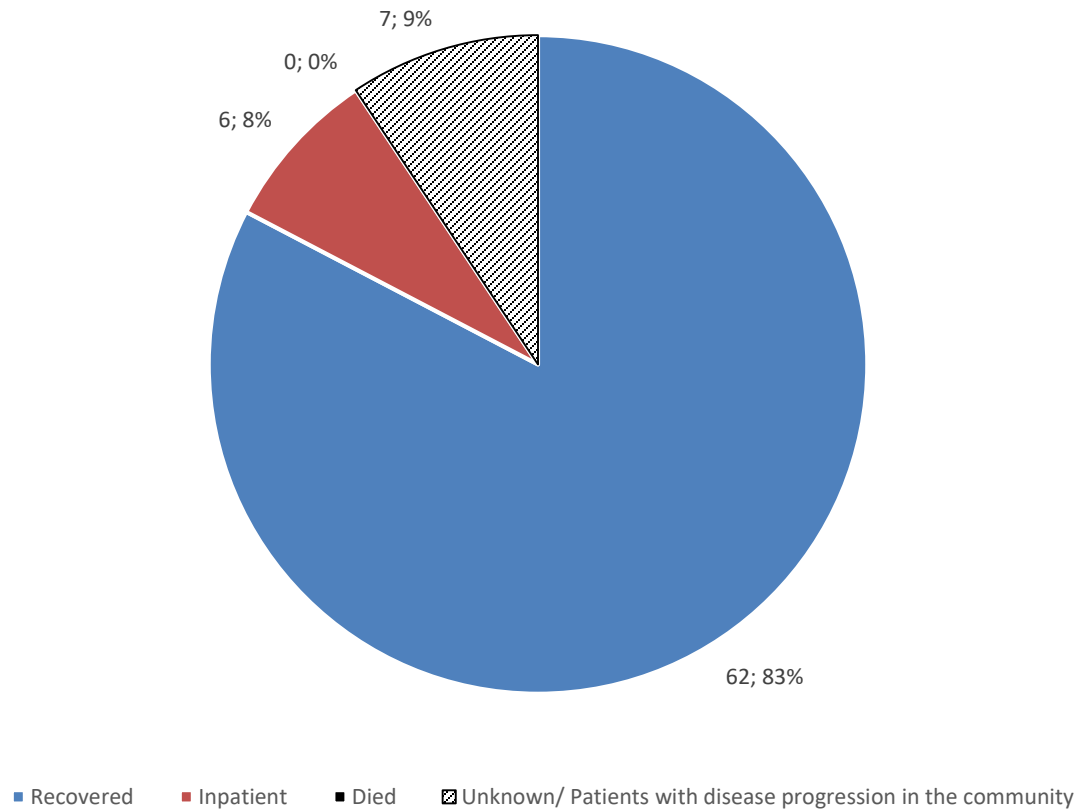
- No. of patients 69
- Age- Mean: 28.5 Median: 23

Age/gender of all patients 2nd Wave patients from 01/09/2020-07/12/2020



2nd Wave All patients outcome

Patient Outcomes



Conclusions

- The risks are real but not as high as feared
- Children are not at increased risk and it is safe for them to return to school
- The context of the workplace and social space is now very different from when the pandemic first started
- More data will be available when cohorts are pooled
- A vaccine is coming very soon